

SUBSECTION b4

Elytra with punctures of dorsal area fine, not impressed.

Declivity with interspaces 1 smooth; black shining. Ventura County, California, in cones of *Pinus monophylla*. Length, 2.95–3.20 mm. Length, female type, 2.95 mm.; Ventura County, California, in *Pinus monophylla*, June 5, 1904, author, collector; Hopk. U. S., No. 2784. Type, Cat. No. 7474, U. S. N. M.

C. monophyllae, sp. nov.

Elytra with punctures of dorsal area coarse, impressed.

Dull black. Boulder and Manitou, Colorado, in cones of *Pinus flexilis*. Length 2.95–3.30 mm. Length, female type, 3.15 mm.; Mount Manitou, Colorado, in *Pinus flexilis*, January 25, 1914, W. D. Edmonston, collector; Hopk. U. S., No. 12400a. Type, Cat. No. 7475, U. S. N. M. **C. flexilis**, sp. nov.

SECTION a4

Black, shining; declivity with interspace 1 smooth. Northern California and southern Oregon, in cones of *Pinus lambertiana*. Length 2.85–3.95 mm. Length, female type, 3.50 mm.; Hilt, California, in *Pinus lambertiana*, September 20, 1913, P. D. Sergent, collector; Hopk. U. S., No. 10833a2. Type, Cat. No. 7478, U. S. N. M.

C. lambertianae, sp. nov.

ENTOMOLOGY.—*Correction of the misuse of the generic name Musca, with description of two new genera.* CHARLES H. T. TOWNSEND, Bureau of Entomology.

For almost a century the generic name *Musca* has, by misuse, been perverted from its rightful application. It is, nomenclatorially, one of the most important in the order of flies, or Diptera, the superfamily name Muscoidea being derived from it; hence, the correction of its misuse is especially important. The present paper deals with the proper application of the name and includes also descriptions of two new muscoid genera.

In 1810 Latreille¹ designated *Musca vomitoria* F. (= *Musca vomitoria* L.)² as type of the genus *Musca*. The designation is valid and can not consistently be set aside. Calliphora RD.³ (1830) falls to

¹ Consid. 444.

² Bezzi & Stein (Kat. Pal. Dipt., 1907) indicate *Musca vomitoria* F. as a synonym of *Musca mortuorum* L. This is manifestly incorrect. Both the description and the bibliographic references given by Fabricius under *vomitoria* fix his species as *vomitoria* L. It must be pointed out that Latreille, in designating genotypes, customarily accredited Linnean species to Fabricius when such had been treated by the latter author.

³ Myod. 433.

Musca; its type is *Musca vomitoria* RD. (nec. L.) = *Musca erythrocephala* Meigen, which species is congeneric with *vomitoria* L.)

Musca domestica L. and the species that have long been classed with it under the name *Musca* require fresh generic reference. At least three genera have been confused here, outside of *Byomya* and *Plaxemya*. The type of *Plaxemya* is *Musca vitripennis* Meigen, according to well-established synonymy. *Musca violacea* RD.⁴ is hereby designated as the genotype of *Byomya* RD. (1830).⁵

Eumusca Townsend (1911) was founded on *Musca corvina* F. (restricted). The new genus *Promusca* is here erected for *Musca domestica* L., and the new genus *Viviparomusca* for *Musca bezzii* Patton & Cragg. *Musca tempestiva* Fallen is not typical of *Promusca* on external adult characters. It may form an atypical subgenus under *Promusca*, provided reproductive and early-stage characters are found to agree. Credit belongs to Portchinski⁶ for suggesting, from the reproductive standpoint, some thirty years ago, the distinctness of the genotypes of *Promusca*, *Eumusca*, and *Viviparomusca*.

***Promusca* Townsend, gen. nov.**

Genotype, *Musca domestica* Linné, Syst. Nat., ed. 10, no. 54. 1758.

The genus is to be distinguished from all the forms hitherto confused with it by the frontalia of female widening out to fill practically or nearly the whole front, and the eyes of male being widely separated. There are about sixty to eighty ovarioles in each ovary. The uterovagina is provided anteriorly with a pair of inflatable pouches or sacs named by Hewitt the accessory copulatory vesicles. Small macrotype, subcylindrical, unpediceled, unmodified and unincubated eggs are deposited. The ovaries mature simultaneously an egg for each ovariole, the whole product being normally ejected by the fly during one oviposition period. Puparium reddish-brown.

⁴ Ibid. 393.

⁵ Coquillett's designation (Type Spp. No. Amer. Dipt., 1910) of *Musca tempestiva* Fallen as type of *Byomya* is invalid, since he mentions by name no originally included species. Were we to accept as valid a designation of an originally included species by number with omission of the name, the designation in question would still remain invalid since it designates two of the originally included species. The use of the term "supposed species" does not affect the status of the case. The logical interpretation of the International Code is that one, and only one, of the originally included names of species can be validly designated as genotype, since this is the only course that can insure stable results. Synonymy is always subject to revision. Two names supposed to be synonymous may at any time prove to be distinct.

⁶ Hor. Soc. Ent. Ross. 19: 210-244. 1885.

EUMUSCA Townsend

Genotype, *Musca corvina* Fab.; Towns. restr., Proc. Entom. Soc. Washington, **13**: 167-170. 1911.

Syn. *Musca corvina* F.; Port., 1885-1892 (form depositing two dozen large eggs with pedicel).

Musca ovipara Port., Bur. Entom. Comm. Sc. Minist. Agr. St. Petersburg, **8**, No. 8: 13, footnote. 1910.

Musca corvina F.; Schnabl & Dziedz., Die Anthomyid. 128. 1911.

Parafacialia of female about one and one-half times as wide as third antennal joint, slightly narrowing below; those of male slightly widening below. Parafrontalia of female narrowest in middle, a little over half the width of frontalia at that point. Cheeks of male less than one-third eye-height, those of female not much over two-sevenths of same. Palpi of both sexes only faintly thickened apically, not flattened. Both sexes with only one pair of weak ocellars. Front of female distinctly less than eye-width. Only one discal pair of scutellars in both sexes. Penultimate joint of hind tarsi in both sexes hardly or but slightly longer than broad, the tarsal joints in general shortened. Male claws not heavy, strongly curved, slightly longer than last tarsal joint. Vein M_1 hardly at all or only faintly bent in after origin.

This genus has from one to two dozen ovarioles in each ovary. The uterovagina is without copulatory vesicles, so far as known. The eggs are large macrotypes, subcylindrical, with long petiole. The whole product of both ovaries, being one egg for each ovariole, is apparently deposited at one oviposition period. Puparium white.

Musca pattoni Austen, *M. gibsoni* Patton & Cragg, and *M. convexifrons* Thoms. appear to belong in this genus, either as typical or as atypical forms.

Viviparomusca Townsend, gen. nov.

Genotype, *Musca bezzii* Patton & Cragg, Indian Journ. Med. Research, **1**: 9-14, pls. 4 and 5. 1913.

Differs from Eumusca as follows: Parafacialia of female very broad, equilateral, fully twice as wide as third antennal joint; those of male much narrower above, broadening conspicuously below. Parafrontalia of female in middle fully three-fourths the width of frontalia at same point. Cheeks of male over one-third eye-height, those of female about two-fifths same. Palpi of female much widened and flattened apically, those of male distinctly enlarged at tip but not much flattened. Female with three or four pairs of rather strong ocellar bristles, male with weak ones behind the front pair. Front of female in middle greater than eye-width. Two discal pairs of macrochaetae on scutellum. Penultimate joint of male hind tarsi fully twice as long as wide, the tarsal joints in general elongate rather than shortened. Male

claws long and strong, those of front and middle legs fully as long as last tarsal joint. Vein M_1 usually deeply bent in after origin.

This genus is remarkable for having practically the same type of female reproductive system as *Glossina*. There is only one ovariole in each ovary. The ovaries mature an egg alternately; one at a time being hatched, and maggot carried to third stage, in the uterus. The uterus is merely the much distended uterovagina, functioning as uterus; it bears no copulatory vesicles anteriorly. Puparium dirty-gray to yellowish.

Musca larvipara Portchinski⁷ (syn. *Musca corvinoides* Schnabl & Dziedz.⁸) evidently belongs to this genus.

ANTHROPOLOGY.—*Prehistoric cultural centers in the West Indies*.¹ J. WALTER FEWKES, Bureau of Ethnology.

When the West Indies were discovered by Europeans the inhabitants of these islands were ignorant of the metals, iron and bronze, which have played such an important part in elevating the condition of prehistoric man in the Old World. Stone, clay, wood, bone, and shell were employed by the natives for utensils and implements; gold and copper for ceremonial purposes or for personal decoration. The Precolumbian aborigines of the West Indies, like those of the rest of America, were practically in what Professor Hoernes has aptly called the infancy of our race culture, to which the name Stone Age is commonly applied.

This period of race history seems to have been universal; it was nowhere of brief duration. Successive steps in cultural advancement were slow and in certain localities were retarded by unfavorable environmental conditions.

It has been estimated that the Stone Age in the Old World lasted from the year 100,000 to 5000 B.C.² The American Indian was practically in the Stone Age when he was discovered at the close of the 15th century, and the inhabitants of a few of the Polynesian Islands were still living in this epoch a little over a century ago. There is every reason to suppose that the

⁷ Bur. Ent. Comm. Se. Minist. Agr. St. Petersburg, 8, no. 8: 13, footnote. 1910.

⁸ Die Anthomyid. 128. 1911.

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² Practically another way of saying that the length of the Stone Age far exceeded the age of metals.